

WHAT IS CLAIMED IS:

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1. A wellbore completion, comprising:
- a plurality of longitudinal gravel pack sections disposed within a well, the gravel pack sections capable of imposing a predetermined substantially radial flow restriction upon fluid production flowing substantially radially through the gravel pack section;
- wherein at least one of the gravel pack sections creating a substantially radial flow restriction that is different from the substantially radial flow restriction of at least one other gravel pack section.
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2. The wellbore completion of claim 1, wherein the gravel pack sections comprise graded gravel material having an effective permeability within a predetermined range when placed in the well.
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3. The wellbore completion of claim 1, wherein the gravel pack sections impose a greater pressure drop at a heel end of a horizontal wellbore and progressively less pressure drop at a toe end of the horizontal wellbore.
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4. The wellbore completion of claim 1, further comprising a sand screen having a plurality of flow restricting sections capable of imposing a predetermined flow restriction upon fluid production flowing substantially radially through the sand screen sections.
5. The wellbore completion of claim 4, wherein each screen section comprises a flow restriction element capable of imposing a restriction on the communication of fluid flow, thereby regulating the pressure profile along the sand screen length.
6. The apparatus of claim 5, wherein the flow restriction elements comprise one or more from the following group: sand packed sections within the screens, wire mesh within the screens, tortuous path elements within the screens and holes within a base pipe.
7. The wellbore completion of claim 1, further comprising a packer assembly attached to the sand screen.
8. The wellbore completion of claim 1, further comprising production tubing in communication with the sand screen.
9. The wellbore completion of claim 1, wherein the gravel pack sections comprise a packing of gravel having a predetermined range of fluid flow conductivities.

10. An apparatus for completing a wellbore within a subterranean reservoir, comprising:

a production tubular having an interior, the production tubular comprising screen sections capable of communicating fluid between the reservoir and the interior of the production tubular;

wherein each screen section comprises a flow restriction element capable of imposing a known restriction on the communication of fluid flow, thereby regulating the pressure profile along the production tubular length

wherein the restriction of at least one screen section varies from the restriction of at least one other screen section;

wherein the flow restriction element is selected from the group comprising: sand packed sections within the screens, wire mesh packed sections within the screens and holes in a base pipe.

11. The apparatus of claim 10, wherein the production tubular is located at least partially within a horizontal wellbore.

12. The apparatus of claim 10, further comprising a gravel pack having a varying substantially radial flow restriction along its length.

13. A wellbore completion, comprising:
a gravel pack creating a varying substantially radial flow restriction along its length.

14. The wellbore completion of claim 13, further comprising:
at least one sand screen sections having flow restriction elements capable of
imposing restriction on the communication of fluid through the sand
screen sections.
15. A wellbore completion, comprising:
a plurality of longitudinal gravel pack sections disposed within a well, at least two
gravel pack sections having different gravel density; and
wherein at least one of the gravel pack sections creates a substantially radial flow
restriction that is different from the substantially radial flow restriction of
at least one other gravel pack section.
16. The wellbore completion of claim 15, further comprising a sand screen having a
plurality of flow restricting sections capable of imposing a predetermined flow
restriction upon fluid production flowing substantially radially through the sand
screen sections.
17. The wellbore completion of claim 16, wherein each screen section comprises a
flow restriction element capable of imposing a restriction on the communication
of fluid flow, thereby regulating the pressure profile along the sand screen length.

18. The wellbore completion of claim 16, wherein the sand screen is at least partially located within a horizontal wellbore having a heel end and a toe end.
19. A method for controlling production drainage rates within a wellbore completion,
5 comprising:
placing a gravel pack within a well, the gravel pack comprising a plurality of longitudinal gravel pack sections capable of imposing flow restrictions upon fluid production flowing substantially radially through the gravel pack sections.
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20. The method of claim 19, further comprising:
varying the density of a gravel pack longitudinally within a horizontal well.
21. The method of claim 20, further comprising:
15 providing a sand screen that comprises a plurality of flow restricting sections capable of imposing a flow restriction upon fluid production flowing substantially radially through the sand screen sections.
22. The method of claim 21, wherein the flow restriction sand screen sections
20 comprise one or more from the group consisting of: sand packed sections within the screens, wire mesh within the screens, tortuous path elements within the screens and holes within a base pipe.

23. A method for restricting production drainage rates within a wellbore completion, comprising:

placing a gravel pack within a wellbore, the gravel pack comprising a plurality of longitudinal gravel pack sections, at least two gravel pack sections having different gravel density; and varying a substantially radial flow restriction along the wellbore length within a generally horizontal well.

24. The method of claim 23, further comprising:

providing a sand screen within the wellbore, wherein the sand screen comprises a plurality of sections capable of imposing flow restriction upon fluid flowing radially through the sand screen sections.

25. A method for restricting production drainage rates within a horizontal wellbore completion, comprising:

providing a sand screen having a plurality of flow restricting sections capable of imposing flow restrictions upon fluid flowing radially through the sand screen sections within the wellbore, wherein the flow restricting sections comprise one or more from the following group: sand packed sections within the screens, wire mesh within the screens, tortuous path elements within the screens and holes within a base pipe;

placing the sand screen within the wellbore, the sand screen defining an annulus area between the sand screen and the wellbore; and

placing a gravel pack within the sand screen/wellbore annulus, wherein the gravel pack comprises a plurality of longitudinal gravel pack sections capable of imposing flow restrictions upon fluid flowing radially through the gravel pack sections.

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26. A method for completing a wellbore, comprising:

developing a simulation completion model for the well that provides a desired flow restriction per well length to provide substantially equal drainage rates within the well productive zone length; and

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providing a completion system comprising a sand screen and a gravel pack, the system having generally the desired flow restriction per well length as determined by the simulation completion model.

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27. The method of claim 26, wherein the completion system comprises a sand screen and a gravel pack of varying densities along the wellbore length.

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28. The method of claim 26, wherein the completion system comprises a conventional gravel pack and a sand screen having one or more flow restricting elements chosen from the following group: sand packed sections within the screens, wire mesh within the screens, tortuous path elements within the screens and holes within a base pipe.

29. The method of claim 26, wherein the completion system comprises flow restricting elements within the sand screen and a gravel pack of varying densities along the well length.

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